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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
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| 10/732,771 | 12/09/2003 | John R. Bennett | 1761 | 6950 |

7590

05/18/2005

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EXAMINER

PHAM, HUNG Q

ART UNIT

PAPER NUMBER

2162

DATE MAILED: 05/18/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/732,771

Applicant(s)

BENNETT ET AL.

Examiner

HUNG Q PHAM

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 11 February 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-11 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-11 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 09 December 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Election/Restrictions

Applicant's election without traverse of Group I (claims 1-11), and cancelation of Group II (claims 12-17) in the reply filed on 02/11/2005 is acknowledged.

Priority

Acknowledgment is made of a claim for domestic priority under 35 U.S.C § 121.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claim 6 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 6 recites the limitation *the tags*. There is insufficient antecedent basis for this limitation in the claim.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

Claims 1 and 9-11 are rejected under 35 U.S.C. 102(a) as being anticipated by the Admission [BACKGROUND OF THE INVENTION, pages 1-4].

Regarding claims 1 and 11, as in the background of the application is a computer-implemented method and program for decompressing a trie (Background, page 1, line 22-page 2, Line 3) including:

evaluating a node of the trie (as illustrated at page 1, Lines 22-page 2, Line 10, to determine the word *the* is a valid word, *t*, *h*, and *e* nodes are evaluated);

determining that the node includes a tag flag having a setting indicative of a multiple tag field attached to the node (as in FIG. 3-4 and the illustration of page 2, Line 7-page 4, Line 9, each node in a trie is associated with a valid flag, a tag bit for slang words, and an enumeration count for a synonym as *multiple tag fields attached to the node*, and the structure of a trie node for containing those field is considered as *a tag flag*); and

evaluating each setting in the multiple tag field (as in FIG. 3-4 and the illustration of page 2, Line 7-page 4, Line 9, the values of valid flags, slang words tag bit, and enumeration counts generate a plurality of binary numbers, each binary number

representing a setting, the binary number is evaluated to determine whether the word is a valid word, a slang and its synonyms), and

for each setting that indicates a tag, associating the node with a category corresponding to that tag (for each binary number with tag bit indicating a slang, e.g., 01 to indicate the word is a slang, the slang word is sorted out upon decompression for changing the appearance of the word in a list of synonyms presented to a user, and slang word is a category corresponding to the slang tag bit, page 3, Lines 2-12).

Regarding claim 9, as disclosed in the Background of The Invention, *the node includes at least one partial enumeration count* (global enumeration count, page 3).

Regarding claim 10, as disclosed in the Background of The Invention, *the node includes a partial enumeration count for at least one of the tags* (each word in the word list is tagged by a particular key, and each word is mapped to a global enumeration, page 3).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claims 2-8 are rejected under 35 U.S.C. 103(a) as being unpatentable over the Admission [BACKGROUND OF THE INVENTION, pages 1-4] in view of Knuth [The Art of Computer Programming].

Regarding claim 2, the Background of The Invention does not have the step of *evaluating a tag information field to determine that the trie was constructed to have at least one node with a multiple tag field*. Knuth teaches a method for decompressing a trie and further discloses the step of *evaluating a tag information field to determine that the trie was constructed to*

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have at least one node with a multiple tag field (as disclosed by Knuth at page 499, a Patricia trie consists of a header and N-1 nodes, where the nodes contain several fields. The header is represented by a plurality of particular bit long, where each bit long corresponding to a particular field, e.g., KEY, LLINK, and LTAG, and LTAG is one bit field that tells whether or not LLINK pointing to a particular node. Thus, to search for particular key words in Patricia trie, LTAG as *tag information field* is evaluated to determine whether *a node with multiple tag fields* exists or not). It would have been obvious for one of ordinary skill in the art at the time the invention was made to include the step of evaluating tag information as taught by Knuth into the decompressing method as disclosed in the background in order to search for a particular key word.

Regarding claim 3, the Background of The Invention does not have *a bitmask, and wherein evaluating each setting in the multiple tag field comprises checking the value of each bit in the bitmask*. Knuth teaches a method for decompressing a trie and further discloses *a bitmask, and wherein evaluating each setting in the multiple tag field comprises checking the value of each bit in the bitmask* (as disclosed at page 499, the fields LLINK, RLINK, LTAG, RTAG, SKIP are bitmasks and each bit of the field would be checked to search for a particular key word). It would have been obvious for one of ordinary skill in the art at the time the invention was made to include the step of checking the value of bitmask as taught by Knuth into the decompressing method as disclosed in the background in order to search for a particular key word.

Regarding claim 4, the Background of The Invention does not have the step of *evaluating information in a header of the trie to determine a size of the bitmask*. Knuth teaches a method for decompressing a trie and further discloses the step of *evaluating information in a header of the trie to determine a size of the bitmask* (the technique of searching THE with bit pattern 10111 01000 00101 at pages 499-500). It would have been obvious for one of ordinary skill in the art at the time the invention was made to include the step of evaluating the header of the trie in order to search for a particular key word.

Regarding claim 5, the Background of The Invention does not have the step of *checking a value field to determine which tags have values associated therewith*. Knuth teaches a method for decompressing a trie and further discloses the step of *checking a value field to determine which tags have values associated therewith* (the technique of searching THE with bit pattern 10111 01000 00101 at pages 499-500). It would have been obvious for one of ordinary skill in the art at the time the invention was made to include the step of checking a value field as taught by Knuth into the decompressing method as disclosed in the background in order to search for a particular key word.

Regarding claim 6, the Background of The Invention does not have the step of *at least one of the tags has a value associated therewith, and checking a value size array field to determine a size for each value associated with a tag*. Knuth teaches a method for decompressing a trie and further discloses *at least one of the tags has a value associated therewith, and checking a value size array field to determine a size for each value associated with a tag*

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(the technique of searching THE with bit pattern 10111 01000 00101 at pages 499-500).

It would have been obvious for one of ordinary skill in the art at the time the invention was made to include the step of checking a value size array as taught by Knuth into the decompressing method as disclosed in the background in order to search for a particular key word.

Regarding claim 7, the Background of The Invention does not have the step of *checking a value size array field to determine which tags have values associated therewith*. Knuth teaches a method for decompressing a trie and further discloses the step of *checking a value size array field to determine which tags have values associated therewith* (the technique of searching THE with bit pattern 10111 01000 00101 at pages 499-500). It would have been obvious for one of ordinary skill in the art at the time the invention was made to include the step of checking a value size array as taught by Knuth into the decompressing method as disclosed in the background in order to search for a particular key word.

Regarding claim 8, Knuth further discloses the step of *checking the value size array field to determine a size for each value associated with a tag* (the technique of searching THE with bit pattern 10111 01000 00101 at pages 499-500).

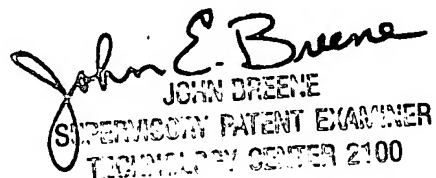
Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to HUNG Q PHAM whose telephone number is 571-272-4040. The examiner can normally be reached on Monday-Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, JOHN E BREENE can be reached on 571-272-4107. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Examiner Hung Pham
April 5, 2005


JOHN BREENE
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2100